a first stage of applying a voltage so that the alignment of the cholesteric liquid crystal is substantially in parallel to a voltage application direction;

a second stage of applying a voltage to change the state of the cholesteric liquid crystal to a homogeneous state or a homogeneous/planar-mixed state; and

a third stage of applying a voltage to change the state of the cholesteric liquid crystal from the homogeneous state or the homogeneous/planar-mixed state to a focalconic state.

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2. (Amended) A driving method for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

a first stage of applying a voltage so that the alignment of the cholesteric liquid crystal is substantially in parallel to a voltage application direction;

a second stage of applying a voltage to change the state of the cholesteric liquid crystal to a homogeneous state or a homogeneous/planar-mixed state; and

a third stage of applying a voltage to change the state of the cholesteric liquid crystal from the homogeneous state or the homogeneous/planar-mixed state to a focalconic/planar-mixed state.

3. (Amended) The driving method according to Claim 1, wherein $0.8\times \tau_H \leqq \tau_2 \leqq 8\times \tau_H$ is satisfied where τ_2 is a period of the second stage and τ_H is a time spent until the cholesteric liquid crystal in a homeotropic state by the application of a voltage indicates the lowest dielectric constant after the application of the voltage is stopped.

4. (Amended) The driving method according to Claim 3, wherein $\tau_H \leqq \tau_2 \leqq 5 \times \tau_H$ is satisfied.

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6. (Amended) The driving method according to Claim 1, wherein a voltage waveform applied in the first stage comprises a pulse-like voltage having a voltage amplitude of V_1,

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wherein a voltage waveform applied in the third stage comprises a pulse-like voltage having a voltage amplitude of V_3, and

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wherein V_1 is larger than V_3 and τ_3 is smaller than τ_1 where τ_1 and τ_3 are respectively voltage application times in the first and third stages.

8. (Amended) A driving apparatus for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

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a first period determining means for determining a period of a first stage;

a second period determining means for determining a second period in succession to the first stage;

a third period determining means for determining a third period in succession to the second stage; and

a voltage application means,

wherein a voltage is applied to the cholesteric liquid crystal so that its alignment is substantially in parallel to a voltage application direction in the first period produced by the first period determining means,

wherein a voltage is applied to the cholesteric liquid crystal to change the state of the liquid crystal to a homogeneous state or a homogenous/planar-mixed state in the second period produced by the second period determining means, and

wherein a voltage is applied to the cholesteric liquid crystal to change the state from the homogeneous state or the homogenous/planar-mixed state to a focalconic state or a planar/focalconic-mixed state in the third period produced by the third period determining means.

9. (Amended) A driving method for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

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a first stage of applying a voltage so that the alignment of the cholesteric liquid crystal is substantially in parallel to a voltage application direction before a voltage is applied to each pixel based on conditions of voltage corresponding to display data;

a second stage of applying a voltage to change the state of the cholesteric liquid crystal to a homogeneous state or a homogeneous/planar-mixed state; and

A3

a third stage of applying a voltage to accelerate the change of the cholesteric liquid crystal from the homogeneous state or the homogeneous/planar-mixed state to a focalconic state or a focalconic/planar-mixed state,

wherein the second stage and the third stage are repeated after the first stage.

A4

12. (Amended) The driving method according to Claim 9, wherein a voltage waveform applied in the first stage comprises a pulse-like voltage having a voltage amplitude of V_1,

wherein a voltage waveform applied in the third stage comprises a pulse-like voltage having a voltage amplitude of V_3, and

wherein V_1 is larger than V_3 and τ_3 is smaller than τ_1 where τ_1 and τ_3 are respectively voltage application times in the first and third stages.

13. (Amended) The driving method according to Claim 1, wherein a voltage waveform applied in the first stage comprises a pulse-like voltage having a voltage amplitude of V_1,

wherein a voltage waveform applied in the third stage comprises a pulse-like voltage having a voltage amplitude of V_3, and

wherein V_1 is equal to V_3 and τ_3 is smaller than τ_1 where τ_1 and τ_3 are respectively voltage application times in the first and third stages.

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15. (Amended) A driving apparatus for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

a first period determining means for determining a period of a first stage;

a second period determining means for determining a second period in succession to the first stage;

a third period determining means for determining a third period in succession to the second stage;

a voltage application means; and

a frequency controlling means for operating repeatedly the second period determining means and the third period determining means after the operation of the first period determining means,

wherein a voltage is applied to the cholesteric liquid crystal so that its alignment is substantially in parallel to a voltage application direction in the first period produced by the first period determining means,

wherein a voltage is applied to the cholesteric liquid crystal to change the state of the liquid crystal to a homogeneous state or a homogenous/planar-mixed state in the second period produced by the second period determining means, and

wherein a voltage is applied to the cholesteric liquid crystal to accelerate a change of the state from the homogeneous state or the homogenous/planar-mixed state to a focalconic state or an intermediate state between planar and focalconic states in the third period produced by the third period determining means.

16. (Amended) A driving method for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

initializing a display state by applying a predetermined voltage to each pixel; and

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applying a voltage to each pixel based on conditions of voltage corresponding to display data,

wherein when a temperature of the cholesteric liquid crystal is lower than a predetermined temperature, a voltage application time is extended from a voltage application time corresponding to the predetermined temperature, and when the temperature of the cholesteric liquid crystal is higher than the predetermined temperature, a voltage application time is shortened from the voltage application time corresponding to the predetermined temperature.

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17. (Amended) The driving method according to Claim 16, wherein in driving according to a passive addressing system, when a period for initializing is represented by T_1 and a period for applying a voltage to each pixel based on conditions of voltage corresponding to display data is represented by T_2, lengths of T_1 and T_2 are extended from lengths of T_1 and T_2 determined with respect to the predetermined temperature when the temperature of the cholesteric liquid crystal is lower than the predetermined temperature.

18. (Amended) The driving method according to Claim 17, wherein the period T_1 for initializing includes a first stage of applying a voltage so that the alignment of the cholesteric liquid crystal is substantially in parallel to a voltage application direction, a second stage of applying a voltage to change the state of the cholesteric liquid crystal to a homogeneous state or a homogeneous/planar-mixed state, and a third stage of applying a voltage to change the state of the cholesteric liquid crystal from the homogeneous state or the homogeneous/planar-mixed state to a focalconic state or a focalconic/planar-mixed state, and

wherein when periods of the first stage, the second stage and the third stage are respectively represented by T_{10}, T_{11} and T_{12}, and when the temperature of the cholesteric liquid crystal is lower than a predetermined temperature, the lengths of T_{10}, T_{11} and T_{12} are

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extended from the lengths of T_{10}, T_{11} and T_{12} determined with respect to the predetermined temperature.

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20. (Amended) The driving method according to Claim 16, wherein when the predetermined temperature is 25°C, a period for applying a voltage to each pixel based on conditions of voltage corresponding to display data at an optional temperature t_p is $T_2(t_p)$ and K_A is a constant relying on 5 to 50 liquid crystal materials, the relation of the following formula is satisfied:

$T_2(t_p) = T_2(25) \times 2\text{^}((25-t_p)/K_A)$.

21. (Amended) The driving method according to Claim 16, wherein when the predetermined temperature is 25°C, and K_B is a constant relying on 5 to 50 liquid crystal materials, the magnification $n(t_p)$ relating to T_{10}, T_{11}, T_{12} and T_2 at an optional temperature t_p satisfies the relation of the following formula (^ indicates an index):

$n(t_p) = n(25) \times 2\text{^}((25-t_p)/K_B)$.

22. (Amended) A driving method for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

a first stage of applying a voltage so that the alignment of the cholesteric liquid crystal is substantially in parallel to a voltage application direction; and

a second stage of applying a voltage to change the state of the cholesteric liquid crystal to a homogenous state or a planar state.

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25. (Amended) A driving apparatus for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, comprising:

a first period determining circuit for determining a period of a first stage;

a second period determining circuit for determining a second period in succession to the first stage; and

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a voltage application circuit for applying a voltage to the cholesteric liquid crystal so that its alignment is substantially in parallel to a voltage application direction in the first period produced by the first period determining circuit, and applying a voltage to the cholesteric liquid crystal to change the state of the liquid crystal to a homogeneous state or a planar state in the second period produced by the second period determining circuit.

A6

26. (Amended) The driving apparatus according to Claim 25, wherein:

the liquid crystal display device is provided with row electrodes and column electrodes;

a passive addressing type driving is conducted;

the voltage application circuit comprises a row driver for driving the row electrodes and a column driver for driving the column electrodes; and

a controlling circuit is provided for instructing the row driver to apply a voltage of a non-display state to all the row electrodes and for instructing the column driver to apply a voltage of an ON display to all the column electrodes in the first period.

27. (Amended) A driving method for driving a liquid crystal display device with a cholesteric liquid crystal having a memory mode of operation, wherein when a time spent until the cholesteric liquid crystal in a homeotropic state by the application of a voltage indicates the lowest dielectric constant after the application of the voltage is stopped is represented by τ_H, a voltage is applied to the cholesteric liquid crystal so that the alignment of the liquid crystal is substantially in parallel to a voltage application direction, the state of the cholesteric liquid crystal is changed by applying a voltage pulse of lower than τ_H, and a voltage pulse is applied to effect a display.

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